

In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

- Sub C1
1. (Currently amended) A manual input device comprising:
a knob;
a feeling providing device which has at least two kinds of feeling patterns;
at least one of a ball and a pin; and
an actuator which positions at least one of the ball and the pin with respect to the feeling providing device and changes an operation feeling given to the knob.
 2. (Original) The manual input device according to Claim 1, wherein the knob is manipulated by linear movement.
 3. (Original) The manual input device according to Claim 1, wherein the knob is manipulated by rotation.
 - B1 art 4. (Original) The manual input device according to Claim 1, wherein the knob is manipulated by rotation in at least two directions.
 5. (Currently amended) The manual input device according to Claim 1, wherein the feeling providing device comprises one of a disc and a cylinder which bears plural feeling patterns (rows) and is fixed to a control shaft to be manipulated by the knob; and one of the ball and the pin elastically forced to contact the one of the disc and cylinder, and
wherein the actuator linearly reciprocates the one of the ball and the pin in a direction where the plural feeling patterns are arranged.
 6. (Previously presented) The manual input device according to Claim 1, wherein the feeling providing device comprises one of a disc and cylinder which has a single feeling pattern (row) and is fixed to a control shaft to be manipulated by the knob; and one of plural balls and pins elastically forced to contact the one of the disc and cylinder, and

wherein the actuator linearly reciprocates a selected one of the one of the plural balls and pins in a direction where the selected one of the one of the plural balls and pins selectively engages with the feeling pattern.

7. (Previously presented) The manual input device according to Claim 1, wherein the feeling providing device comprises a rotary polyhedron which bears plural feeling patterns (rows) arranged in parallel along an axial direction of an outer surface, and

wherein the actuator reciprocally rotates the rotary polyhedron around an axis of the rotary polyhedron, with one end of a control shaft to be manipulated by the knob being in contact with the outer surface of the rotary polyhedron bearing the feeling patterns.

8. (Currently amended) A manual input device comprising:
a knob;
feeling providing device which provides the knob with an operation feeling;
an actuator which positions at least one of a ball and a pin with respect to
the feeling providing device;
a detector which detects an operating condition of the knob; and
an input/output section which exchanges signals with an external device controlled by the knob,
wherein the actuator is controlled according to a control signal generated based on an external signal from an external detector connected at least with the external device.

9. (Original) The manual input device according to Claim 8, wherein the knob is manipulated by linear movement.

10. (Original) The manual input device according to Claim 8, wherein the knob is manipulated by rotation.

11. (Original) The manual input device according to Claim 8, wherein the knob is manipulated by rotation in at least two directions.

12. (Previously presented) The manual input device according to Claim 8, wherein the feeling providing device comprises one of a disc and cylinder which bears plural feeling patterns (rows) and is fixed to a control shaft to be manipulated by the knob; and one of a ball and pin elastically forced to contact the one of the disc and cylinder, and

wherein the actuator linearly reciprocates the one of the ball and pin in a direction where the feeling patterns are arranged.

13. (Previously presented) The manual input device according to Claim 8, wherein the feeling providing device comprises one of a disc and cylinder which bears a single feeling pattern (row) and is fixed to a control shaft to be manipulated by the knob; and one of plural balls and pins elastically forced to contact the one of the disc and cylinder, and

wherein the actuator linearly reciprocates a selected one of the one of the plural balls and pins in a direction where the selected one of the one of the plural balls and pins selectively engages with the feeling pattern.

14. (Previously presented) The manual input device according to Claim 8, wherein the feeling providing device comprises a rotary polyhedron which bears plural feeling patterns (rows) arranged in parallel along an axial direction of an outer surface, and

wherein the actuator reciprocally rotates the rotary polyhedron around an axis of the rotary polyhedron, with one end of a control shaft to be manipulated by the knob being in contact with the outer surface of the rotary polyhedron bearing the feeling patterns.

15. (Previously presented) A manual input device comprising
a knob;
a feeling providing device which provides the knob with an operation
feeling;
an actuator which activates the feeling providing device;
a control section for the actuator;

a detector which detects an operating condition of the knob; and
an input/output section which exchanges signals with an external device
controlled by the knob,

wherein an external signal from an external detector connected at least
with the external device is inputted into the control section through the input/output
section to generate a control signal for the actuator to match at least the external signal,
and wherein the actuator is controlled according to the control signal.

16. (Currently amended) A manual input device comprising:
a knob;
a feeling providing device which provides the knob with an operation
feeling;
an actuator which positions at least one of a ball and a pin with respect to
the feeling providing device;
a control section for the actuator;
a detector which detects an operating condition of the knob; and
an input/output section which exchanges signals with an external device
controlled by the knob,
wherein both a detection signal at least from the detector and an external
signal from an external detector connected with the external device are inputted into the
external device to generate control information for the actuator to match the detection
signal and the external signal, wherein the control information is picked up by the
control section through the input/output section to generate a control signal for the
actuator to match the control information, and wherein the actuator is controlled
according to the control signal.

17. (Currently amended) A manual input device comprising:
a knob;
a feeling providing device which provides the knob with an operation
feeling;
an actuator which positions at least one of a ball and a pin with respect to
the feeling providing device;

a detector which detects an operating condition of the knob; and
an input/output section which exchanges signals with an external device
controlled by the knob,

wherein both a detection signal at least from the detector and an external
signal from an external detector connected with the external device are inputted into the
external device to generate a control signal for the actuator to match the detection
signal and the external signal, and wherein the actuator is controlled according to the
control signal.

18. (Currently amended) A car-mounted apparatus controller comprising:
a function selection switch for selecting one function among various
functions to be controlled; and
a manual input device for controlling the function selected by the function
selection switch, the manual input device comprising:
a knob;
feeling providing means having at least two kinds of feeling patterns; and
an actuator for positioning at least one of a ball and a pin with respect to
the feeling providing means and changing an operation feeling given to the knob.

19. (Currently amended) A car-mounted apparatus controller comprising:
an electric apparatus selection switch for selecting an electric apparatus to
be controlled;
a function selection switch for selecting one of various functions of the
electric apparatus selected by the apparatus selection switch; and
a manual input device, for controlling a function selected by the function
selection switch,
the manual input device comprising:
a knob;
feeling providing means for providing the knob with an operation feeling;
an actuator for positioning at least one of a ball and a pin with respect to
the feeling providing means;
detecting means for detecting an operating condition of the knob; and

an input/output section which exchanges signals with an external device controlled by the knob,

wherein the actuator is controlled according to a control signal generated based on both a detection signal at least from the detecting means and an external signal from external detecting means connected with the external device.
